Department of Computer Science
University of the Western Cape
ARM Assembly Language and Programming
CSC 212 Architecture Assembly
Practical 3
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Venue:
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Practical 3

Question 1a : Fix the following code.

```
.data
.balign 4
prompt_number1: .asciz "\nEnter Number 1\n"
prompt_number2: .asciz "\nEnter Number 2\n"

.balign 4
number_format: .asciz "%i"

.balign 4
number_response: .int 0

.text
.global main
.extern printf
.external scanf
main:
        push {ip, lr}

        ldr R0, =prompt_number1
        bl printf

        ldr R0, =number_format
        ldr R1, =number_response
        bl scanf

        ldr R0, =number_response
        ldr R0, [R0]

        add r2, r1

        ldr R0, =prompt_number2
        bl printf

        ldr R0, =number_format
        ldr R1, =number_response
        bl scanf

        ldr R1, =number_response
        ldr R1, [R1]

        mov r3, r1
        CMP R2, R3
        BEQ if_equal
        not_equal:
                mov r0,r3
                  b end
        if_equal :
                mov r0, r2
                push {ip,pc}
                b end

        end:
```

Question 2

Write a calculator program that requires the user to input two integer values, then allow the user to select any of the following operations:

Add -> Value1 + Value 2

Subtract -> Value2 – Value1

Factorial – Value1 ^ Value2

Question 3

Rewrite the program in Question 2 so that the operations are functions used within you program.